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QUALCOMM INCORPORATED			EXAMINER	
5775 MOREHOUSE DR.			REGO, DOMINIC E	
SAN DIEGO, CA 92121				
			ART UNIT	PAPER NUMBER
			2618	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/786,709	DEAN, RICHARD F.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 December 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3-10 and 12-40 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 10 and 12-19 is/are allowed.
 6) Claim(s) 1,3-9,20-40 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. This communication is responsive to the application filed on December 16, 2008. Claims 1,3-10, and 12-40 are pending and presented for prosecution. Claims 1,10,13,14,17, and 19 have been amended and new claims 22-40 have been added.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1,3-9,20,21 and 23-30 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584,588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions (*In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008)) indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as

a statutory process. In this case, a method of claims 1 and 23 including steps of processing, using, attempting and measuring is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

4. Claims 22 and 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Since the claimed "a computer-readable medium comprising, instructions, which, when executed by a machine, cause the machine to perform operations" is not necessarily encoded or embodied or stored on the computer readable medium, there is no interrelationship between the claimed medium with the rest of the computer to permit the program's functionality to be realized. Thus, claims 22 and 40 are non-statutory.

Specification objection

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Regarding claims 22 and 40, Applicant recites limitations "A computer- readable medium" is not disclosed in the Specification. In the specification, paragraphs 0021 and 0064 stated "machine readable mediums" which is not same as "a computer- readable medium".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 23-25,29,31-33,37,39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai (*US Patent #5,815,795*) in view Yarkosky (*US Patent #6,990,313*).

Regarding claim 23, as best understood by 101 rejection, a method for detecting oscillation, in a repeater system (*Col 2, line 9-14; Col 2, line 50-56*) comprising: processing communication signals, from a base station in a wireless communication device circuit (Figure 4, item 30a) embedded in a repeater (Figure 4), except for using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation by measuring signal quality of the communication signals from the base station, and determining oscillation if the signal quality meets a certain criteria.

However, in related art, Yarkosky teaches using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation by measuring signal quality of the communication signals from the base station, and determining oscillation if the signal quality meets a certain criteria

(Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Yarkosky to Iwai in order to reduce the amount of noise that the repeater sends to the base station in scenarios where the repeater should not be sending any signal, such as when the input signal strength is too low or too high, or when the output signal strength is too high (reflecting feedback oscillation).

Regarding claim 31, Iwai teaches an apparatus for detecting oscillation in a repeater system (*Col 2, line 9-14; Col 2, line 50-56*) comprising: a wireless communication device circuit (Figure 4, item 30a) embedded in a repeater (Figure 4), except for wherein the wireless communication device circuit is configured to process communication signals from a base station to measure signal quality of the communication signals; and means for using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation if the signal quality meets a certain criteria.

However, in related art, Yarkosky teaches wherein the wireless communication device circuit is configured to process communication signals from a base station to measure signal quality of the communication signals; and means for using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation if the signal quality meets a certain criteria (Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8). Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to provide the above teaching of Yarkosky to Iwai in order to reduce the amount of noise that the repeater sends to the base station in scenarios where the repeater should not be sending any signal, such as when the input signal strength is too low or too high, or when the output signal strength is too high (reflecting feedback oscillation).

Regarding claims 24 and 32, the combination of Iwai and Yarkosky teach all the claimed elements in claims 23 and 32. In addition, Yarkosky teaches the method/apparatus, wherein oscillation is determined if the signal quality degrades below a certain level (Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8).

Regarding claims 25 and 33, the combination of Iwai and Yarkosky teach all the claimed elements in claims 23 and 31. In addition, Yarkosky teaches the method, wherein determining oscillation comprises determining oscillation if the signal quality degrades from a level that existed before the repeater was used (Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8).

Regarding claims 29 and 37, the combination of Iwai and Yarkosky teach all the claimed elements in claims 23 and 31. In addition, Iwai teaches the method, further comprising: reducing gain of repeater if the repeater system is in oscillation (Col 9, line 18-29).

Regarding claim 39, Iwai teaches an apparatus for detecting oscillation in a repeater system (Col 2, line 9-14; Col 2, line 50-56) comprising: and a processor

coupled to the WCD, configured to reduce the gain of the repeater system if the repeater system is in Oscillation (Col 9, line 18-29), except for a wireless communication device (WCD) configured to detect if the repeater system is in oscillation based on communication signals from a base station processed at the WCD, wherein the WCD is configured measure signal quality of the communication signals from the base station, and to determine oscillation if the signal quality meets a certain criteria.

However, in related art, Yarkosky teaches a wireless communication device (WCD) configured to detect if the repeater system is in oscillation based on communication signals from a base station processed at the WCD, wherein the WCD is configured measure signal quality of the communication signals from the base station, and to determine oscillation if the signal quality meets a certain criteria (Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Yarkosky to Iwai in order to reduce the amount of noise that the repeater sends to the base station in scenarios where the repeater should not be sending any signal, such as when the input signal strength is too low or too high, or when the output signal strength is too high (reflecting feedback oscillation).

Regarding claim 40, Iwai teaches a computer-readable medium comprising instructions, which, when executed by a machine, cause the machine to perform operations, the instructions comprising:

program code to process communication signals from, a base station in a

wireless communication device circuit (Figure 4, item 30a) embedded in a repeater (Figure 4), except for program code to measure signal quality of the communication signals from the base station; and program code to determine the repeater system is in oscillation if the signal quality meets a certain criteria.

However, in related art, Yarkosky teaches program code to measure signal quality of the communication signals from the base station; and program code to determine the repeater system is in oscillation if the signal quality meets a certain criteria (Col 3, lines 20-30, lines 52-64; Col 7, lines 3-15; Col 7, line 60-Col 8, line 8, especially Col 7, line 60-Col 8, line 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Yarkosky to Iwai in order to reduce the amount of noise that the repeater sends to the base station in scenarios where the repeater should not be sending any signal, such as when the input signal strength is too low or too high, or when the output signal strength is too high (reflecting feedback oscillation).

8. Claims 26-28 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai (*US Patent #5,815,795*) in view Yarkosky (*US Patent #6,990,313*) and further in view of Seki et al. (*US Patent #20040248581*).

Regarding claim 26 and 34, the combination of Iwai and Yarkosky fail to teach the method/apparatus, wherein using the wireless communication device circuit comprises: obtaining signal to noise ratio value to measure the signal quality.

However, in related art, Seki teaches the method/apparatus, wherein using the wireless communication device circuit comprises: obtaining signal to noise ratio value to measure the signal quality (*Paragraph 0006 and claim 3*). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Seki to Iwai and Yarkosky in order to stabilize the repeater system.

Regarding claims 27 and 35, the combination of Iwai and Yarkosky teach all the claimed elements in claims 23 and 31. In addition, Iwai teaches, the method/apparatus, wherein using the wireless communication device circuit comprises: using the wireless communication device circuit to estimate at least one open loop power control parameter; establishing a communication link from the wireless communication device circuit to a base station using the estimated open loop power control parameter; and determining oscillation if the closed loop power control command is greater than a certain amount (*Col 2, line 50-Col 3, line 21*), except for the method/apparatus, wherein using the wireless communication device circuit comprises: receiving at least one closed loop power control command from the base station.

However, in related art, Seki teaches receiving at least one closed loop power control command from the base station (*Paragraph 0006*). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Seki to Iwai and Yarkosky in order to adjust the transmission power with the target value and avoid the oscillation.

Regarding claims 28 and 36, the combination of Iwai, Yarkosky, and Seki teach all the claimed elements in claims 27 and 35. In addition, Seki teaches the

method/apparatus, wherein using the wireless communication device circuit comprises estimating at least a required transmit power to complete the call, wherein receiving closed loop power control commands comprises receiving at least power adjustment information (*Paragraph 0006*), and Iwai teaches wherein determining oscillation comprises determining oscillation if the power adjustment information is greater than a certain amount (*Col 2, line 50-Col 3, line 21*).

9. Claims 30 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai (*US Patent #5,815,795*) in view Yarkosky (*US Patent #6,990,313*) and further in view of admitted prior art.

Regarding claims 30 and 38, the combination of Iwai and Yarkosky fail to teach the method wherein the using step uses the ratio of energy of a chip of a pilot signal to total interference (Ec/Io) obtained from the processed communication signals to determine if the repeater system is in oscillation.

However, Applicant admitted in paragraph 055, the method wherein the using step uses the ratio of energy of a chip of a pilot signal to total interference (Ec/Io) obtained from the processed communication signals to determine if the repeater system is in oscillation (Paragraph 0055). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Admitted prior art to Iwai and Yarkosky in order to measure quality of signal.

Allowable Subject Matter

10. Claims 10 and 12-18 are allowed for the reasons presented in the previous action. Note that allowable elements of claim 11 have been added to independent claim 10. Similar reason also applies to claim 19.

11. Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

Response to Arguments

12. Applicant's arguments with respect to claims 1,3-9, and 20-40 have been considered but are moot in view of the new ground(s) of rejection. Claims 10-19 have been allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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